



# Sewage Sleuthing on the River Cam:

*Why is the Bathing Water  
quality so poor, and what  
should be done about it?*

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# Bathing Water Designation

*Aim: "to protect the environment and the health of Europeans by attaining good bathing water quality throughout the EU"*

This involves

- Information for "bathers"
- Measures to improve water quality if rated "Poor"

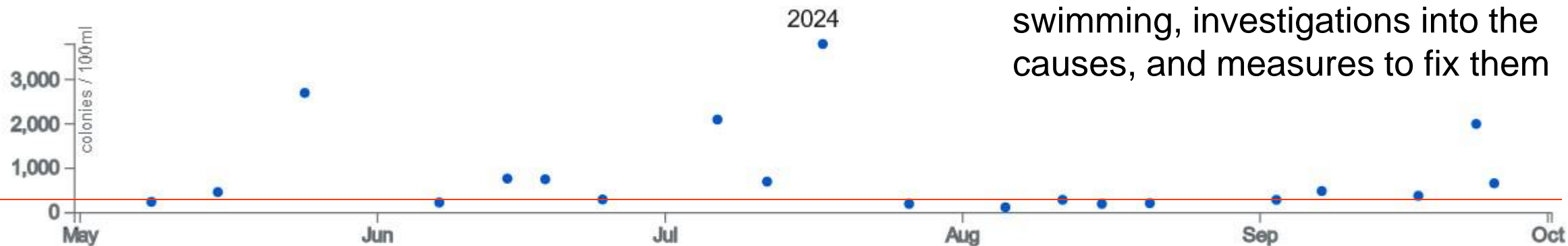


[https://environment.ec.europa.eu/topics/water/bathing-water\\_en](https://environment.ec.europa.eu/topics/water/bathing-water_en)

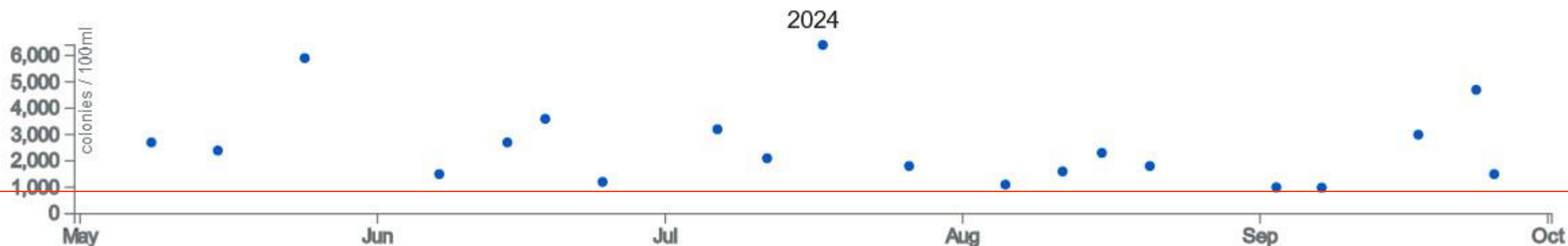
# So what did this year's Environment Agency monitoring show?

- Water quality at Sheep's Green will undoubtedly be officially rated as "Poor"
- This will trigger advice against swimming, investigations into the causes, and measures to fix them

Intestinal Enterococci (IE)



Escherichia coli (EC)



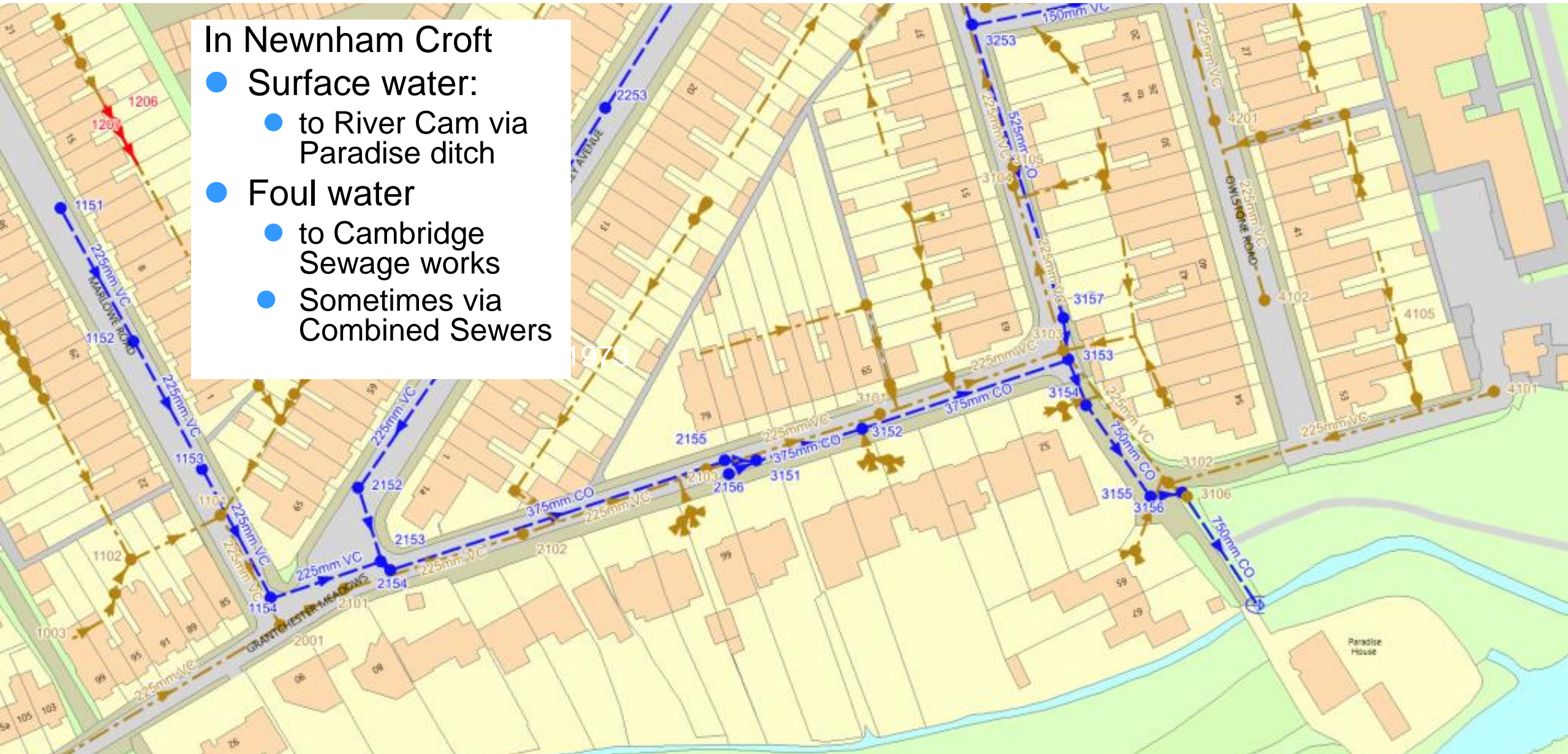
# Where's the faecal pollution coming from?

- Anglian Water sewage system?
  - Inadequate “normal” treatment?
  - “Spills”?
- Surface water when it rains?
  - Misconnections?
  - Birds, dogs, cattle?
- Private septic tanks?

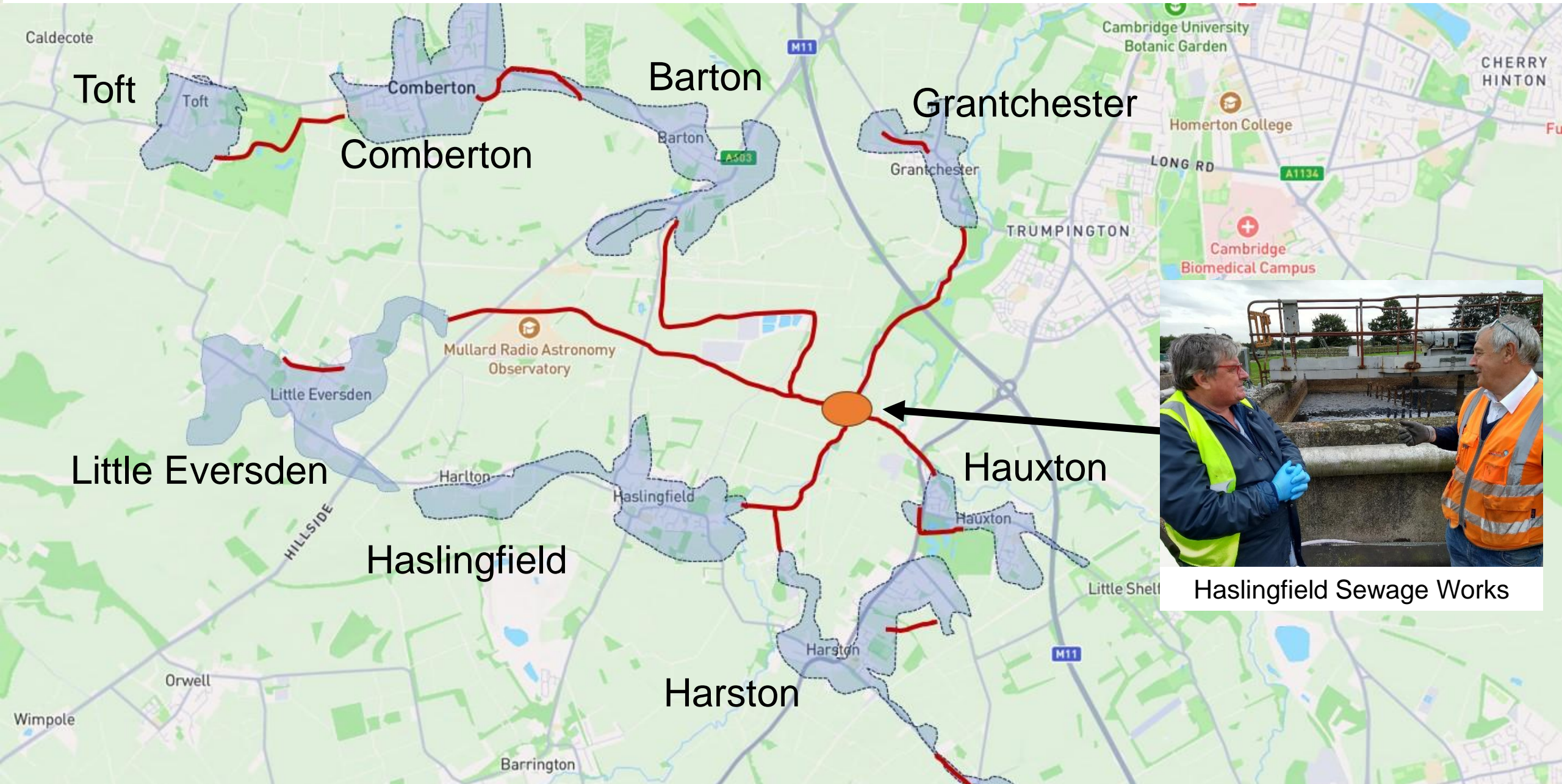
# What should happen to our waste water?

In Newnham Croft

- Surface water:
  - to River Cam via Paradise ditch
- Foul water
  - to Cambridge Sewage works
  - Sometimes via Combined Sewers



# Haslingfield Sewage Works 4km upstream, treats a lot of sewage



Haslingfield Sewage Works

# What could possibly go wrong?

- “Spills” due to
  - Too much water
  - Blockages
  - Mechanical failures



Overflow tanks at Haslingfield Sewage Works full to the brim

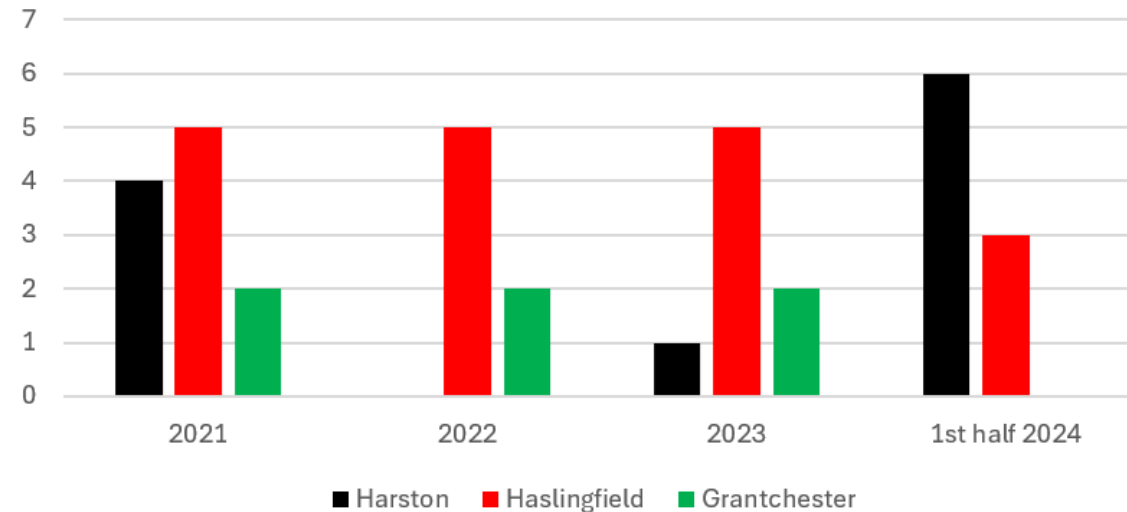


A “spill” at Harston pumping station releasing diluted sewage into the street at Button End

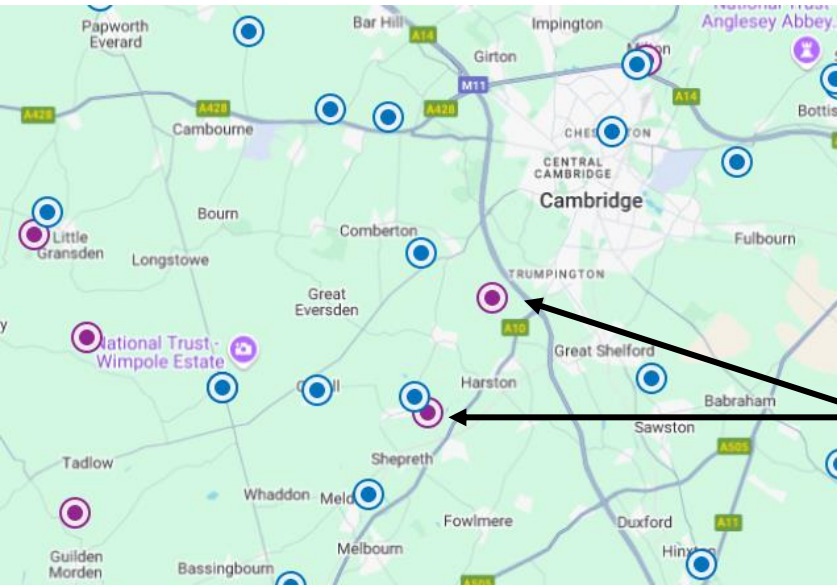
# “Spills” happen alarmingly frequently.

- Data on overflows from sewage works is available online, but it’s not always reliable.
- Haslingfield and Foxton Sewage Works nominally overflow 10-30% of the time. Plus..
- Our EIRs reveal at least 35 spills in Harston, Haslingfield and Grantchester since Jan 2021 from pumping stations and the network.

Sewage escapes from Anglian Water Network (excluding discharges from Sewage Works)



*Anglian Water responses to CVF’s Environmental Information Requests*



*Purple blobs: Sewage Works with active storm overflows on 3/10/24*  
<https://www.anglianwater.co.uk/environment/storm-overflows/storm-overflow-map>



# What goes in must come out..

- After treatment, the effluent is continuously released from the sewage works into the river.
- E. coli in effluent from Haslingfield Sewage Works is ~10x worse than from Cambridge Sewage Works



We've analysed the test results  
Anglian Water took for us. They  
did this weekly at 16 sites that we  
nominated, for the year Sept  
2022-23

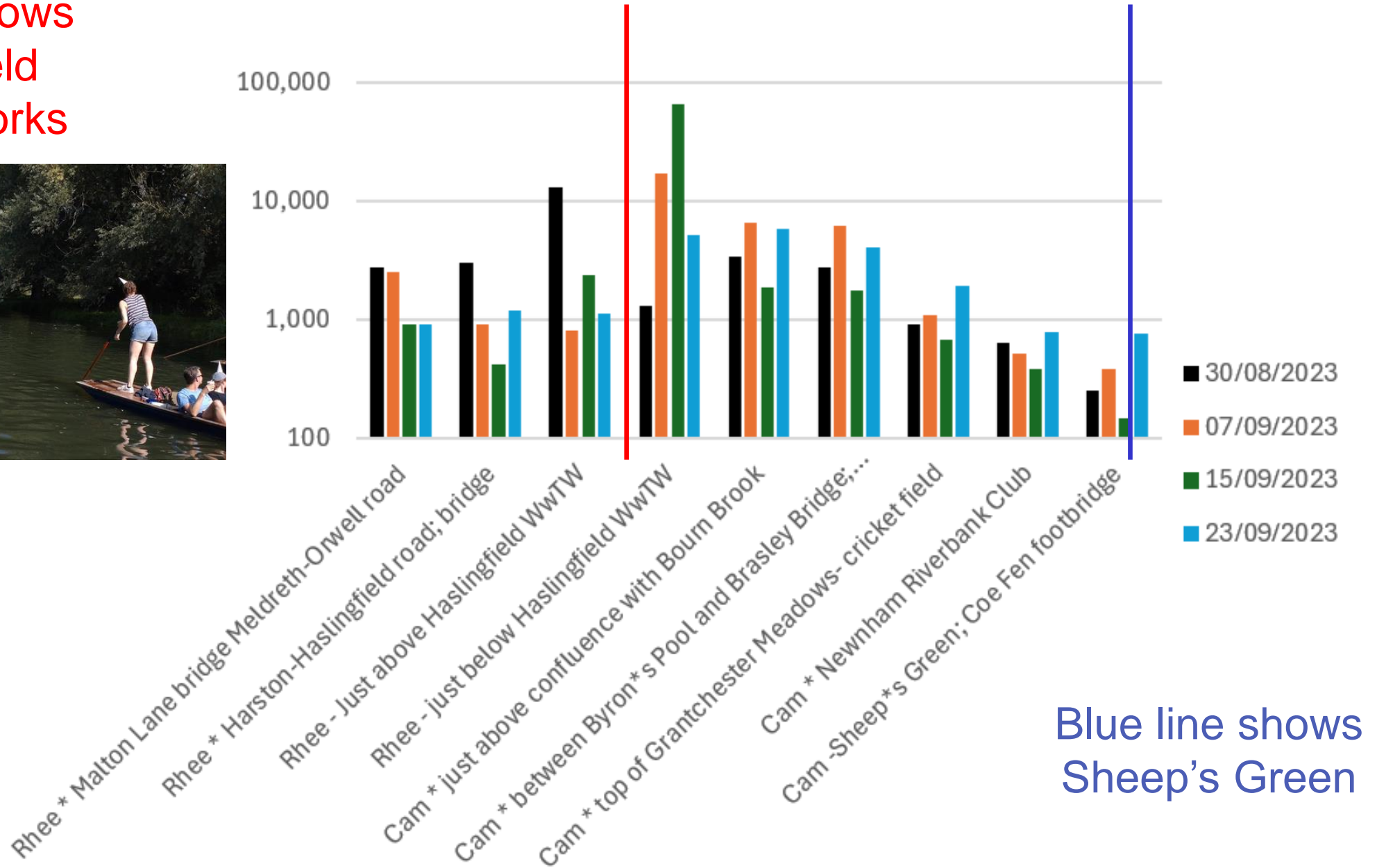
<https://camvalleyforum.uk/anglian-water-data/>



Red line shows  
Haslingfield  
Sewage works



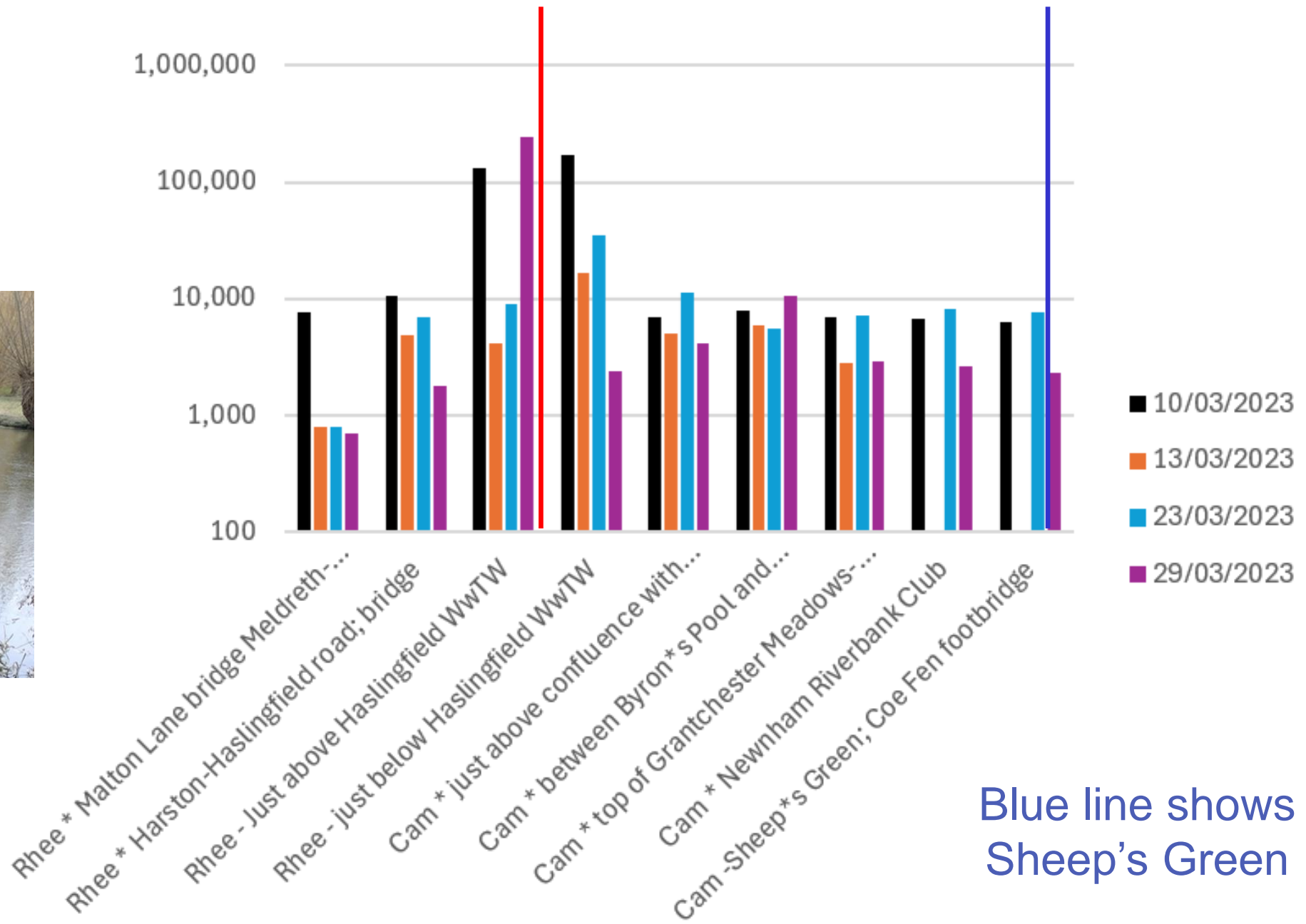
### E.coli in low river flow 30/8/23-23/9/23



Blue line shows  
Sheep's Green

# E.coli/100ml in flood conditions 10-29 March 2023

Red line shows  
Haslingfield  
Sewage works



Blue line shows  
Sheep's Green

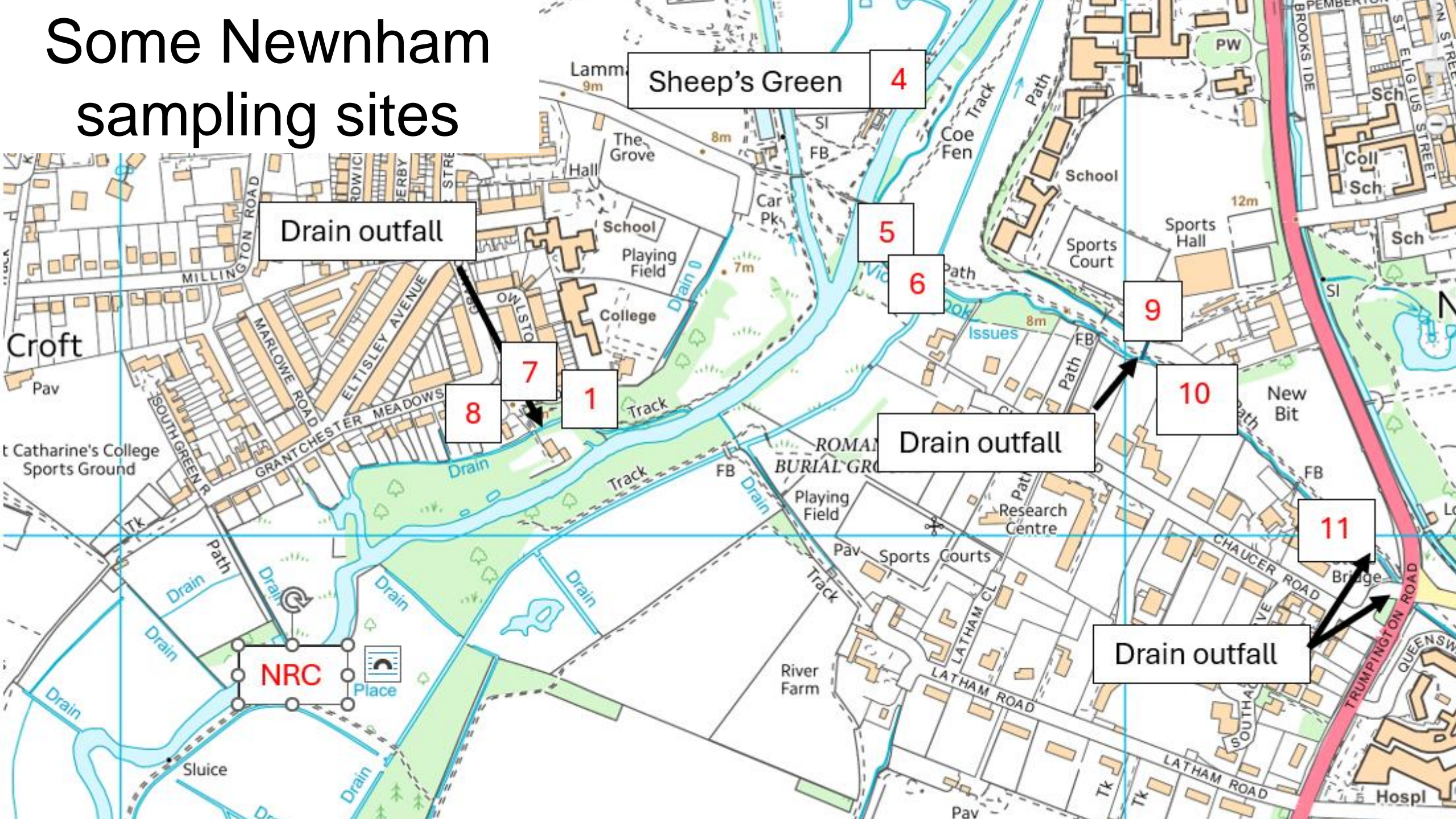
# Our conclusions..

- Haslingfield Sewage Works is clearly a major source of E.coli
- But something is releasing E.coli upstream of the sewage works too
- In nice summer weather, E.coli levels decline across Grantchester meadows, despite the presence of cattle.
- But in flood, it's ~10x worse, and it doesn't improve across Grantchester meadows

- In 2023 we got our own portable testing “lab”
- On the Environment Agency’s advice, we’ve been investigating the ditches and what happens in wet weather..

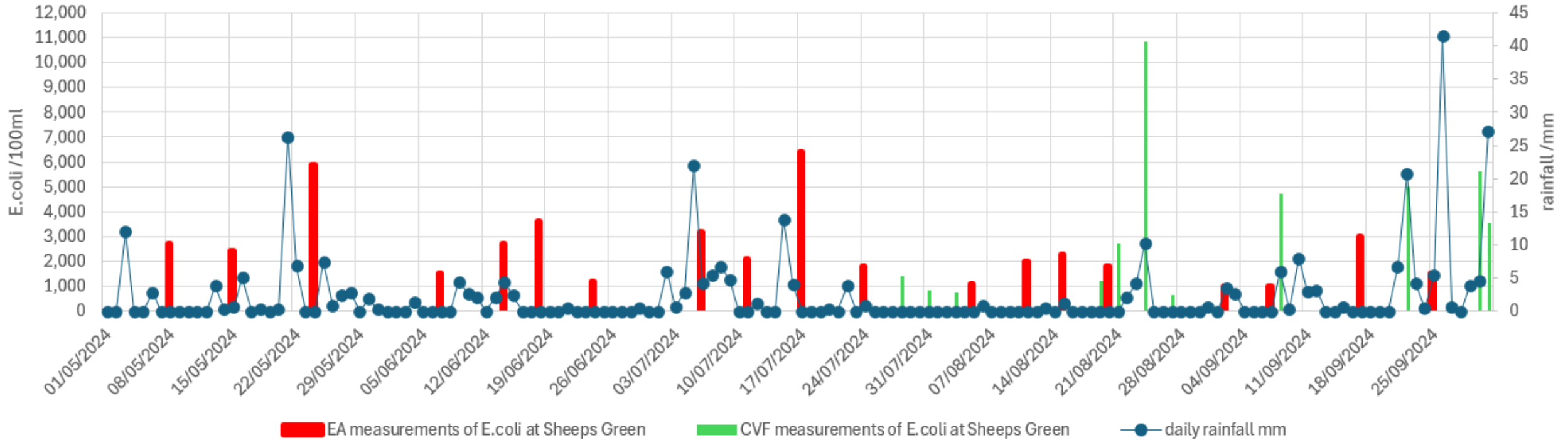


# Some Newnham sampling sites



# It seems to be worst in, or just after, wet weather

Sheeps Green E.coli vs Bassingbourn daily rainfall 2024



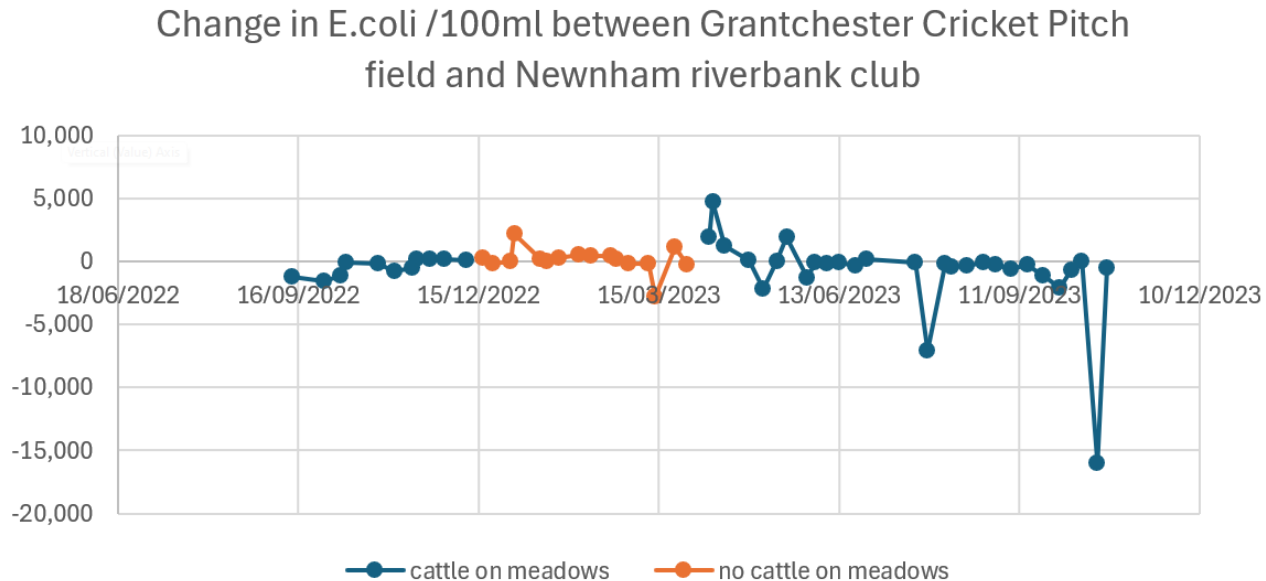


# What about the cattle?

- On Grantchester Meadows the cattle made no difference in 2022/3.
- In Vicar's Brook, the surface water outfalls seem to be a bigger occasional contributor than the cattle.



Grantchester meadows cattle

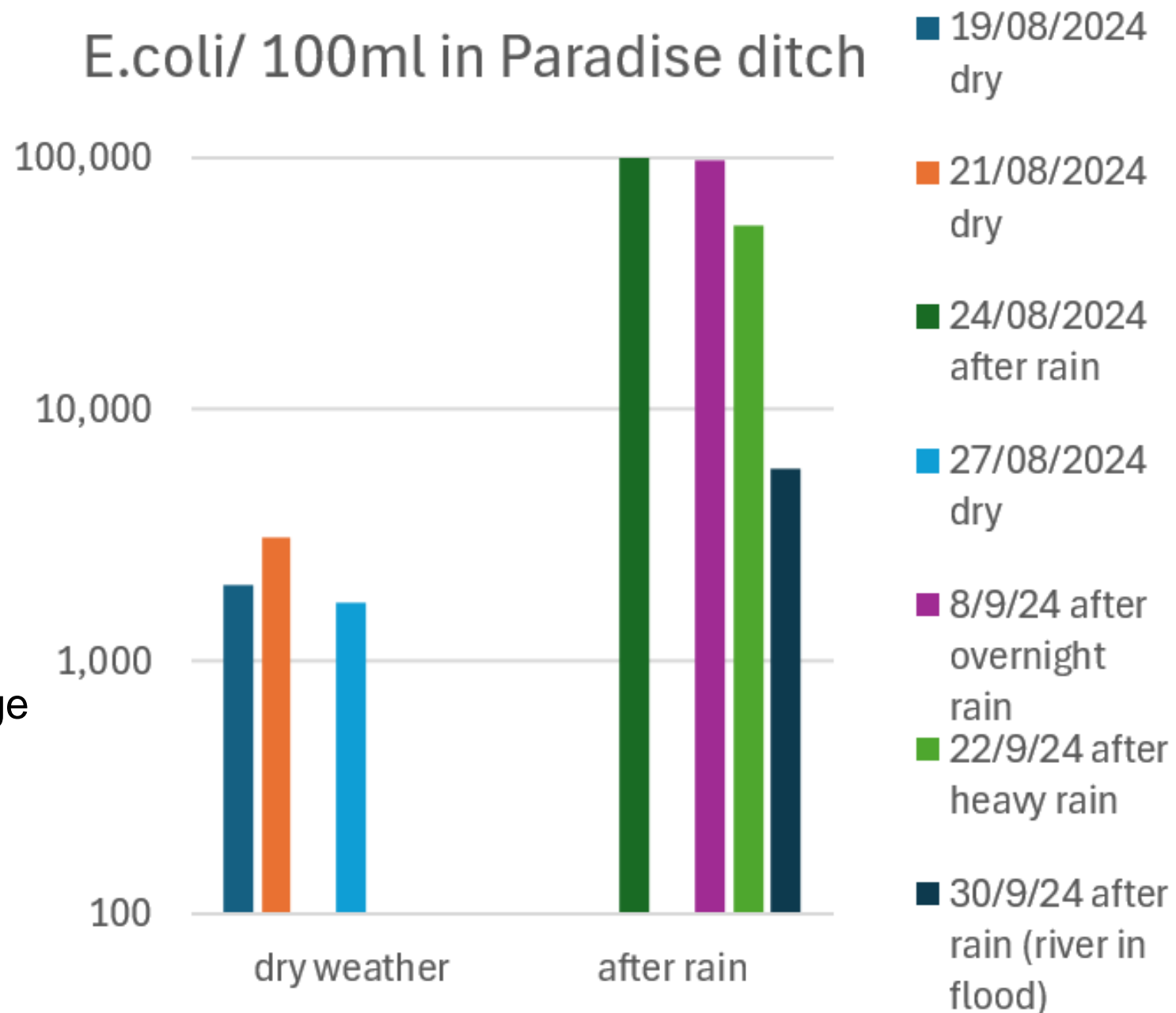


An outfall on Vicars Brook



- After rain, E. coli in Paradise ditch is as bad as in Haslingfield Sewage Works' effluent
- Is it from misconconnections in Newnham Croft?

## E.coli/ 100ml in Paradise ditch



## **What happens next?**

- Preliminary investigations: Ongoing.
- Official announcement of Bathing Water Status: ~Nov 2024
- Apportionment Study: starts ~April 2025
- Design and implement improvements: completion by 2027

## **What improvements do we expect/want from Anglian Water?**

- Ultra Violet (UV) treatment at Haslingfield Sewage Works (in budget)
- Bigger storm tanks at Haslingfield Sewage Works (in budget)
- Upgraded sewage pumping stations and rising main (we hope)

## **What improvements do we want elsewhere?**

- Fewer misconnections
- Well maintained/upgraded septic tanks
- More rain gardens and wetlands

# To help:

- Check that builders haven't misconnected your drains.
- Call the Environment Agency, immediately on 0800 80 7060 if you see suspected pollution incidents
- Never, ever, put wet wipes down the toilet
- And join us on the 'March for Clean Water' on 3 Nov



A probable misconnection in Newnham Croft



Sewage flowing from burst rising main between Haslingfield and Haslingfield Sewage Works in 2022

# Any questions?

